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COMPLETE SPECIFICATION.

Improvements in Suture-needle and Case.

I, JAMES LA FOREST KING, residing at Springfield, Sangamon County, in the State of Illinois, one of the United States of America, Gentleman, do hereby declare the nature of this Invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

- 5 The Invention is a combined suture-needle-handle carrier ; and it consists in the construction and novel combination of parts hereinafter described, and pointed out in the appended claims. Fig. 1 is part sectional and fig. 2 sectional elevation of the instrument when in use. Fig. 2 is sectional elevation of instrument when not in use. Fig. 4 shows a suture-needle. Fig. 5 shows a bobbin with spring and fig. 6 is a section through same. Fig. 7 is a separate sectional view of needle holder or neck. Figs. 8 and 9 are section and elevation of a needle and fig. 10 a section of a hollow needle.

- Referring to the drawings by letter, A, designates a cylindrical casing composed of the parts, B and C, which are properly tapped at their adjoining ends for the former
15 to screw upon the latter. The part, B, has a closed outer or rear end, *b*, and is perfectly cylindrical. Its open end is provided with a stopper, *B*¹, of cork or other suitable material, to retain the needles carried therein when the neck of the part, C, is turned outward. The part, C, beyond its inner cylindrical part is provided with a neck, D, centrally bored for the passage of a needle. The part, C, just where the
20 neck, D, begins is threaded internally, so that the neck, D, can be put in the part, B, and the part, C, and screwed therein. The stopper, *B*¹, is then inserted into the open end of the part, C. This construction is for the convenience of carriage.

- d*, is an inclined perforation in the part, D, just where the cylindrical part begins to contract into the neck, and is intended to aid in producing tension.

- 25 Upon the end of the neck, D, is the hollow spherical head, E, having an opening, *e*, diametrically-opposite its communication with the bore of the neck, and a number of other diametrically-opposite openings, F, extending centrally around it from the opening, *e*. The hollow journal, *h*, extending inwardly from the neck portion, D, is designed to hold the bobbin while in use, the bobbin revolving thereon.

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G, is a set-screw engaging in a tapped opening, *g*, in the head, E, at right angles to the openings, *e*, and F; and H, is the tension canal on the side of the head opposite the set-screw.

The heel of the needle, L, is placed in the opening, *e*, and held firmly in place by the set-screw, G; or, if it is desired to give it different inclinations when using it on different parts of the body, the heel is placed in any two diametrically-opposite openings, F, and held by the set-screw. 5

I, is a spool-shaped bobbin having the curved spring, J, figs. 4, 5 and 6 attached to it. The said spring is provided with the arms, K K, punched in at, *k k*, to form journals that enter the orifices of the central opening of the bobbin, so that the latter can turn thereon. The spring bears on the ligature to produce tension, and the ligature passes through an opening, *j*, in the spring, which is adjacent to the neck, D, thence through the perforation, *d*, thence through the passage, H, fig. 2 in the head back of the needle, L, and then through the eye of the needle, being drawn far enough through to be taken hold of when the needle is passed during an operation. 10 15

If more tension is needed, the ligature may be wound in one or more turns around the neck before passing it through the passage, H.

If desired, a hollow needle, M, Fig. 8, may be used, and the ligature passed directly through the hollow neck and the needle as shown in fig. 4. In using wire the same would, in this case, be bent down into a groove after passing through the outer orifice of the needle, which is about a quarter of an inch from the point. 20

The needle can be held entirely within the neck and casing by the set screw or projecting at any distance from out the head.

Some of the advantages of the invention are as follows :

There are no openings in the combined case and handle, except the opening in the neck for the passage of the needle and the tension-opening at the beginning of the neck for the ligature, and the parts are not connected by hinge joints or springs. Consequently the blood cannot enter while performing an operation; or should a little enter, the casing can be very readily cleansed or disinfected after unscrewing the parts. It is compact, simple and strong, and one set-screw only is necessary to hold the needle in whatever position the same may be placed. With it catgut, thread, silk, animal ligatures, or wire may be used, and it may carry a number of bobbins, so that the size of thread can be quickly changed when necessary during an operation. 25 30

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed I declare that I claim is :— 35

1. The combination, with the cylindrical casing made in two detachably-connected sections, the front section having a neck, a tension-channel through the base of the neck, and a head provided with a tension-channel or opening and a needle-perforation, of the needle, the set-screw to retain the needle, and the bobbin in the interior of the casing, substantially as specified. 40

2. The combination, with the cylindrical two-part casing provided with a neck, a tension passage or channel through the base of the neck, and a head provided with a tension-opening and needle-perforation, of the needle, the set-screw to retain the same, the spool-shaped bobbin, and the spring attached to said bobbin and pressing on the ligature, which passes thence out of the tension opening in the base of the neck, substantially as specified. 45

3. The combination, with the cylindrical casing made in two parts screwing together and provided with a perforated neck and head, of a needle fitting in the perforation of the head and a set-screw engaging a tapped opening in the head, so as to hold the needle entirely within the neck and casing or any distance out of the head, substantially as specified. 50

4. The combination, with the cylindrical casing provided with a neck and a hollow head thereon, having a series of diametrically-opposite openings in it, the members of which series are all situated in the same axial plane of the head and neck, of a needle having its heel of proper size to fit into any two opposite members of said series, and a 55

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set-screw engaging in a threaded opening in the head, which opening is equally distant from and at right angles to the members of the series of openings, so as to bind-upon the needle in any position the latter may be, substantially as specified.

5 5. The combined needle casing and handle made in two detachable parts and having a stopper or detachable partition between the two parts, so as to form a compartment to hold needles and a compartment for the reception of the bobbin, and having no openings except those for the needle and for the ligature, substantially as specified.

10 6. The herein-described combined handle and case for suture-needles, consisting of the cylindrical body, A, consisting of the parts, B, and C, screwing together and having the stopper or detachable partition between them, the perforated neck, D, standing from the end of the part, C, the tension-opening, *d*, at the beginning of the neck, the head, E, provided with the opening, *e*, opposite the perforation of the neck, the tension canal, H, and the diametrically-opposite opening, F, and the set-screw, C, substantially as specified.

15 7. The combination, of the cylindrical casing made in two sections, the front section having a neck provided with a needle perforation, and the journal, *h*, the needle and the bobbin, substantially as specified.

Dated this 6th day of March 1888.

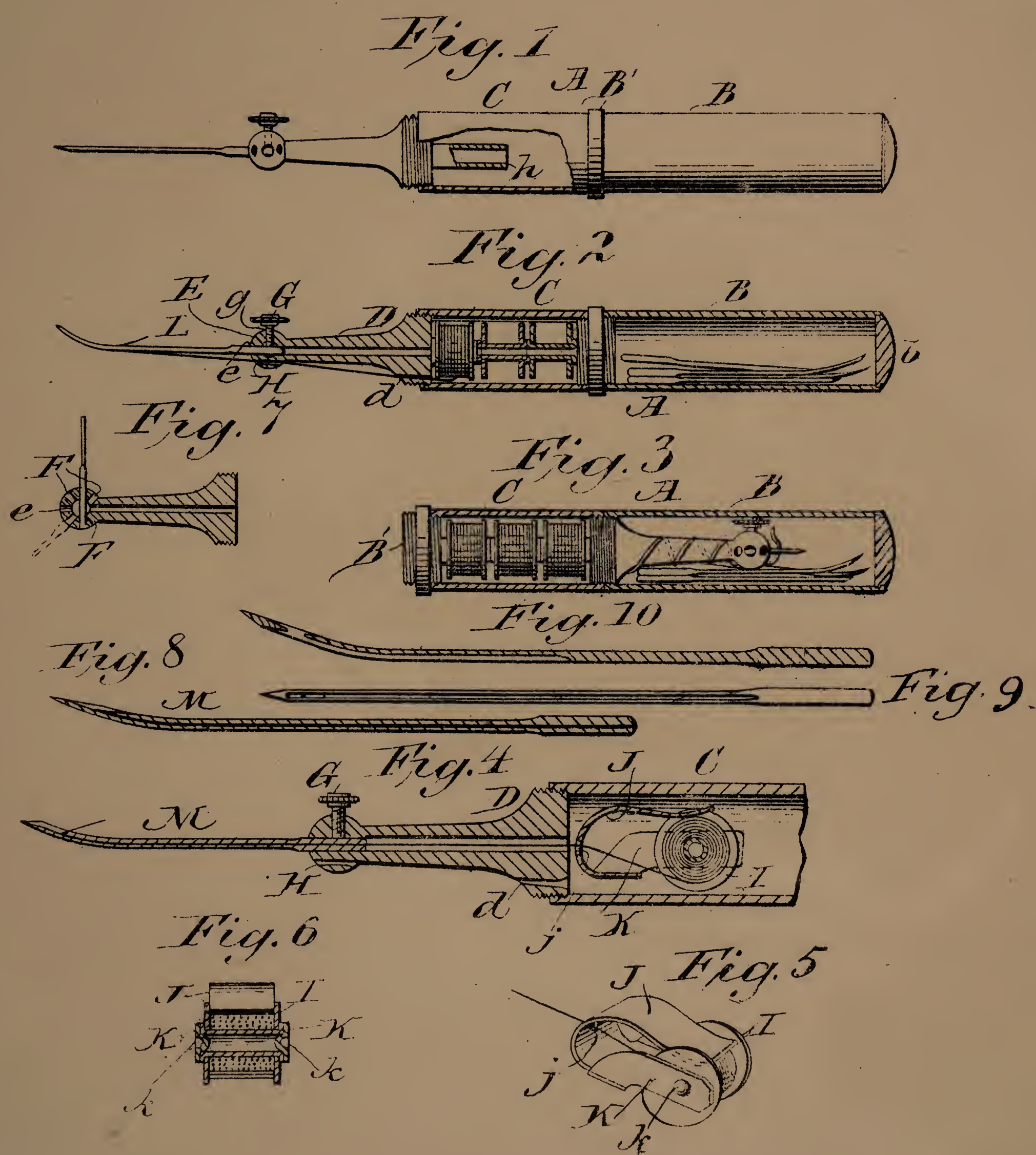
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[This Drawing is a reproduction of the Original on a reduced scale]

